

# **INDEPENDENT NET TASK IDENTIFICATION FOR EFFICIENT PARTITION AND DISTRIBUTION**

## **ABSTRACT OF THE INVENTION**

5 A task management system, method and computer program product for  
determining optimal placement of task components on multiple machines for task  
10 execution, particularly for placing program components on multiple computers for  
distributed processing. First, a communication graph is generated representative of the  
computer program with each program unit (e.g., an object) represented as a node in the  
graph. Nodes are connected to other nodes by edges representative of communication  
15 between connected nodes. A weight is applied to each edge, the weight being a measure  
of the level of communication between the connected edges. Terminal nodes  
representative of the multiple computers are attached to the communication graph. Then,  
the communication graph is divided into independent nets and a min cut is found for each  
independent net. The min cut for the communication graph is the combination of the min  
cuts for all of the independent nets. Finally, program components which may be a single  
program unit or an aggregate of units are placed on computers according to the  
communication min cut.